## REMARKS/ARGUMENTS

In view of the foregoing amendments and the following remarks, the applicants respectfully submit that the pending claims are not anticipated under 35 U.S.C. § 102. Accordingly, it is believed that this application is in condition for allowance. **If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, the applicants respectfully request that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits.**

The applicants will now address each of the issues raised in the outstanding Office Action.

### Objections

The title was objected to as not being descriptive of the invention to which the claims are directed. The title has been amended in accordance with the Examiner's helpful suggestion. Accordingly, the applicants respectfully request that the Examiner withdraw this objection.

### Rejections under 35 U.S.C. § 102

Claims 1-6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,786,852 ("the Suzuki patent"). The applicants respectfully request

that the Examiner reconsider and withdraw this ground of rejection in view of the following.

The Suzuki patent concerns an image pick-up apparatus having a field mode in which signals of two pixels adjacent in the vertical direction are added together and then read out, and a frame mode in which signals of pixels on odd numbered lines and those on even numbered lines are read out separately (in two operations). That is, in The Suzuki patent, a CCD imaging element of an interlace reading type can perform two-pixels-addition reading (corresponding to a field mode), in addition to interlace reading (corresponding to a frame mode). Neither of these modes teach reading out charges of individual pixels separately, one at a time.

In contrast, in the present invention, "n-addition reading" relates to high-speed reading which may be used perform AE (automatic exposure correction) or AF (automatic focusing) processes before actual imaging (See, e.g., page 12, lines 12-21.), and "normal reading" relates to reading out all of the pixels (individually, one at a time) in actual imaging. As shown in Fig. 2A, in the normal reading mode, one vertical transfer pulse is generated in each horizontal blanking interval. On the other hand, as shown in Fig. 2B, in the n-addition reading mode, n vertical transfer pulses are generated in each horizontal blanking interval.

The present invention may be used with progressive scanning type CCD imaging elements. In such imaging elements, it is unnecessary to use the frame mode of the Suzuki patent. That is, in the present invention, the CCD imaging element (such as a progressive scanning type CCD imaging element for example) performs "vertical

n-pixels-addition reading" as well as "normal reading", and Vsub control is performed in accordance with the number (n) of to-be-added pixels. The frame mode of the Suzuki patent would not be used in such embodiments of the present invention.

The Examiner indicated that the field mode and the frame mode of the Suzuki patent correspond to the n-addition mode and the normal mode of the present invention, respectively. However, in the claimed invention, ***the normal driving mode reads individual pixel charges of said solid-state imaging element separately, one at a time***. This occurs neither in the frame mode, nor in the field mode of the Suzuki patent. Accordingly, claims 1 and 4 are not anticipated by the Suzuki patent for at least this reason.

Since each of claims 2 and 3 depends from claim 1, and since each of claims 5 and 6 depends from claim 4, these claims are similarly not anticipated by the Suzuki patent.

Further regarding independent claim 4, the frame mode and field modes of the Sukuki patent do not teach three driving modes -- a normal driving mode and different (at least two) n-addition driving modes, with different (at least two different) values of n. Accordingly, independent claim 4 is not anticipated by the Suzuki patent for at least this additional reason. Since each of claims 5 and 6 depends from claim 4, these claims are similarly not anticipated by the Suzuki patent.

Claims 7-12 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,661,451 ("the

Kijima patent"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Since claims 7-10 have been canceled, this ground of rejection is rendered moot with respect to those claims.

The Kijima patent concerns an apparatus which is configured to perform "normal reading" and "reading (pixel signals) at intervals of three lines" or "lines-addition reading", by using a progressive scanning type CCD imaging element. To achieve a high speed mode, the apparatus of the Kijima patent outputs (selectively) pixel signals for one line at intervals of three lines in the vertical direction, or adds and reads pixel signals for three lines, thereby reading the pixel signals at triple speed. The Kijima patent also refers to adjusting overflow drain substrate voltage in reading (pixel signals) at intervals or in n-pixels-addition reading, from the standpoint of a dynamic range.

In contrast, in the present invention, the CCD imaging element, such as a progressive scanning type CCD imaging element for example, performs "vertical n-pixels-addition reading" as well as "normal reading", and Vsub control is performed in accordance with the number (n) of to-be-added pixels.

In rejecting claim 11, the Examiner cites column 11, lines 57-67 of the Kijima patent as teaching applying a bias voltage to a substrate of the solid state imaging device according to the number of pixels added by the driving unit. However, the cited portion of the Kijima patent merely teaches that "substrate voltage should preferably be adjusted such that the capacity of photodiodes is one-third of the capacity of potential

wells in the case of three-pixels-addition". It does not discuss how it adjusts this capacity. Accordingly, since ***the detail of controlling Vsub potential according to the number (n) to be added in n-pixels-addition reading*** (See, e.g., Fig. 10 of the present application) ***is not taught***, claim 11 is not anticipated by the Kijima patent for at least this reason.

**New claims**

New claim 30 depends from claim 1 and new claim 31 depends from new claim 30. New claim 30 further defines the operation of the overflow level setting means. New claim 31 recites a relationship between different substrate bias voltages. These claims are supported, for example, by the first two data rows of the Tables of Figures 5 and 6. Similarly, new claim 34, which depends from claim 4, further defines a relationship between different substrate bias voltages. This claim is supported, for example, by the last two rows of the Tables of Figures 5 and 6.

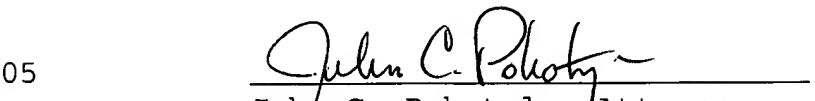
New claims 32, 33, 35 and 36 further define the driving modes. These claims are supported, for example, by Figures 2A and 2B.

**Conclusion**

In view of the foregoing amendments and remarks, the applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, the applicants request that the Examiner pass this application to issue.

Respectfully submitted,

August 4, 2005



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I hereby certify that this correspondence is being deposited on **August 4, 2005** with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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